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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,882	09/29/2003	Bo Goransson	2380-783	5364

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EXAMINER	
MILLER, BRANDON J	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,882	GORANSSON, BO	
	Examiner	Art Unit	
	Brandon J. Miller	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 35-38, 40-45, 47-53, and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al. (US 6,259,918 B1) in view of Ylitalo (US 2003/0157898 A1).

Regarding claim 35 Labonte teaches a method for handing over a mobile station connection established in a radio communication system using a first base station (see col. 2, lines 56-64 and col. 4, lines 5-10). Labonte teaches receiving at a radio network controller from a mobile station one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 5, lines 24-32 and col. 7, lines 5-15, signal strength measurement relates to signal quality measurement and base station controller and base station coordinate to provide service to mobile station). Labonte teaches determining a target base station based on the one or more downlink signal quality measurements (see col. 7, lines 19-23). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to a phase reference). Labonte teaches one or more downlink signal quality

measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam is narrower than the wide beam). Labonte teaches requesting from the target base station one or more signal quality measurements associated with the mobile station for some of the signals transmitted by corresponding narrow antenna beams (see col. 8, lines 20-29, verifying signal strength measurement associated with a mobile station for some of the signals transmitted by narrow antenna beam 112 relates to requesting one or more signal quality measurement). Labonte teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station based on one or more quality signal measurements (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte teaches establishing a radio link for a handover connection between the desired narrow antenna beam at the target base station and the mobile station using a phase reference of a signal corresponding to the desired narrow antenna beam (see col. 8, lines 47-55 assignment of digital traffic channel for hand-off relates to establishing radio link for a handover and the orientation angle used relates to phase reference). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link. Ylitalo teaches a CDMA-based radio communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second

phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches establishing a radio link for a handover using a desired narrow antenna beam (see paragraph [0064], handover between two narrow antenna beams relates to establishing a radio link for a handover). Ylitalo teaches a second phase reference of the second pilot signal corresponding to a narrow antenna beam (see paragraph [0076], 1st column, pilot signal of narrow antenna beam has a phase reference that corresponds to a desired narrow antenna beam). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph [0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Regarding claim 36 Labonte teaches determining the location of the mobile station, and determining the desired antenna beam using the determined location (see col. 3, lines 35-40 and col. 8, lines 55-58).

Regarding claim 37 Ylitalo teaches wherein a desired antenna beam covers an area where the mobile station is currently located or where the mobile station is predicted to be (see paragraph [0064] and FIG. 3).

Regarding claim 38 Ylitalo teaches wherein a desired antenna beam covers an area closest to where the mobile station is currently located or where the mobile station is predicted to be located (see paragraph [0064] and FIG. 3, mobile station between beams relates to an area where antenna beam covers an area closets to were the mobile station is located).

Regarding claim 40 Ylitalo teaches wherein the handover is a soft or hard handover (see col. 6, lines 52-57).

Regarding claim 41 Labonte teaches a method for handing over a mobile station connection established in a radio communication system using a first base station (see col. 2, lines 56-64 and col. 4, lines 5-10). Labonte teaches receiving from a mobile station one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 5, lines 24-32 and col. 7, lines 5-15, signal strength measurement relates to signal quality measurement and base station controller and base station coordinate to provide service to mobile station). Labonte teaches determining a target base station based on the one or more signal quality measurements (see col. 7, lines 19-23). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to phase reference). Labonte teaches one or more downlink signal quality measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam

is narrower than the wide beam). Labonte teaches establishing a radio link between a target base station and the mobile station using a broadcast signal and a phase reference (see col. 9, lines 11-20, measuring by the mobile station of downlink received signal strength on channel broadcast from second base station relates to establishing radio link using a broadcast signal). Labonte teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a radio link to use a desired narrow antenna beam and corresponding second phase reference. Ylitalo teaches a CDMA-based radio communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches reconfiguring a radio link to use the desired narrow antenna beam (see paragraph [0064], handover to desired narrow antenna beam relates to reconfiguring a radio link). Ylitalo teaches a narrow antenna beam and a corresponding phase reference (see paragraph [0076], 1st column). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a

radio link to use a desired narrow antenna beam and corresponding second phase reference because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph [0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Regarding claim 42 Labonte teaches a radio network controller for use in a radio communication system and in establishing a handover connection between a mobile station and a target radio base station (see col. 2, lines 56-64 and see col. 5, lines 24-32, base station controller and base station coordinate to provide service to mobile station). Labonte teaches a memory for storing one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 7, lines 5-15, MAHO signal strength measurements relate to stored downlink signal quality measurements). Labonte teaches processing circuitry configured to determine the target base station based on the one or more signal quality measurements stored in memory (see col. 7, lines 15-25). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to a phase reference). Labonte teaches one or more downlink signal quality measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam

is narrower than the wide beam). Labonte teaches requesting from the target base station one or more signal quality measurements associated with the mobile station for some of the signals transmitted by corresponding narrow antenna beams (see col. 8, lines 20-29, verifying signal strength measurement associated with a mobile station for some of the signals transmitted by narrow antenna beam 112 relates to requesting one or more signal quality measurement). Labonte teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station based on one or more quality signal measurements (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte teaches establishing a radio link for a handover connection between the desired narrow antenna beam at the target base station and the mobile station using a phase reference of a signal corresponding to the desired narrow antenna beam (see col. 8, lines 47-55 assignment of digital traffic channel for hand-off relates to establishing radio link for a handover and the orientation angle used relates to phase reference). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link. Ylitalo teaches a CDMA-based radio communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches establishing a radio link for a handover using a desired

narrow antenna beam (see paragraph [0064], handover between two narrow antenna beams relates to establishing a radio link for a handover). Ylitalo teaches a second phase reference of the second pilot signal corresponding to a desired narrow antenna beam (see paragraph [0076], 1st column, pilot signal of narrow antenna beam has a phase reference that corresponds to the narrow antenna beam). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph [0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Regarding claim 43 Labonte and Ylitalo teach a device as recited in claim 36 and is rejected given the same reasoning as above.

Regarding claim 44 Labonte and Ylitalo teach a device as recited in claim 37 and is rejected given the same reasoning as above.

Regarding claim 45 Labonte and Ylitalo teach a device as recited in claim 38 and is rejected given the same reasoning as above.

Regarding claim 47 Labonte and Ylitalo teach a device as recited in claim 40 and is rejected given the same reasoning as above.

Regarding claim 48 Labonte a communications system incorporating a network controller (see col. 4, lines 10-17).

Regarding claim 49 Labonte teaches a radio network controller for use in a radio communication system and in establishing a handover connection between a mobile station and a target radio base station (see col. 2, lines 56-64 and see col. 5, lines 24-32, base station controller and base station coordinate to provide service to mobile station). Labonte teaches a memory for storing one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 7, lines 5-15, MAHO signal strength measurements relate to stored downlink signal quality measurements). Labonte teaches processing circuitry configured to determine the target base station based on the one or more signal quality measurements stored in memory (see col. 7, lines 15-25). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to phase reference). Labonte teaches one or more downlink signal quality measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam is narrower than the wide beam). Labonte teaches establishing a radio link between a target base station and the mobile station using a broadcast signal and a phase reference (see col. 9, lines 11-20, measuring by the mobile station of downlink received signal strength on channel broadcast from second base station relates to establishing radio link using a broadcast signal). Labonte

teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a radio link to use a desired narrow antenna beam and corresponding second phase reference. Ylitalo teaches a CDMA-based radio communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches reconfiguring a radio link to use the desired narrow antenna beam (see paragraph [0064], handover to desired narrow antenna beam relates to reconfiguring a radio link). Ylitalo teaches a narrow antenna beam and a corresponding phase reference (see paragraph [0076], 1st column). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a radio link to use a desired narrow antenna beam and corresponding second phase reference because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph

[0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Regarding claim 50 Labonte teaches an apparatus for handing over a mobile station connection established in a radio communication system using a first base station (see col. 2, lines 56-64 and col. 4, lines 5-10). Labonte teaches receiving at a radio network controller from a mobile station one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 5, lines 24-32 and col. 7, lines 5-15, signal strength measurement relates to signal quality measurement and base station controller and base station coordinate to provide service to mobile station). Labonte teaches determining a target base station based on the one or more downlink signal quality measurements (see col. 7, lines 19-23). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to a phase reference). Labonte teaches one or more downlink signal quality measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam is narrower than the wide beam). Labonte teaches requesting from the target base station one or more signal quality measurements associated with the mobile station for some of the signals transmitted by corresponding narrow antenna beams (see col. 8, lines 20-29, verifying signal strength

measurement associated with a mobile station for some of the signals transmitted by narrow antenna beam 112 relates to requesting one or more signal quality measurement). Labonte teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station based on one or more quality signal measurements (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte teaches establishing a radio link for a handover connection between the desired narrow antenna beam at the target base station and the mobile station using a phase reference of a signal corresponding to the desired narrow antenna beam (see col. 8, lines 47-55 assignment of digital traffic channel for hand-off relates to establishing radio link for a handover and the orientation angle used relates to phase reference). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link. Ylitalo teaches a CDMA-based radio communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches establishing a radio link for a handover using a desired narrow antenna beam (see paragraph [0064], handover between two narrow antenna beams relates to establishing a radio link for a handover). Ylitalo teaches a second phase reference of the second pilot signal corresponding to a narrow antenna beam (see paragraph [0076], 1st

column, pilot signal of narrow antenna beam has a phase reference that corresponds to a desired narrow antenna beam). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and using a second phase reference of the second pilot signal to establish a radio link because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph [0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Regarding claim 51 Labonte and Ylitalo teach a device as recited in claim 36 and is rejected given the same reasoning as above.

Regarding claim 52 Labonte and Ylitalo teach a device as recited in claim 37 and is rejected given the same reasoning as above.

Regarding claim 53 Labonte and Ylitalo teach a device as recited in claim 38 and is rejected given the same reasoning as above.

Regarding claim 55 Labonte and Ylitalo teach a device as recited in claim 40 and is rejected given the same reasoning as above.

Regarding claim 56 Labonte teaches an apparatus for handing over a mobile station connection established in a radio communication system using a first base station (see col. 2, lines 56-64 and col. 4, lines 5-10). Labonte teaches receiving from a mobile station one or more downlink signal quality measurements associated with one or more neighboring base stations (see col. 5, lines 24-32 and col. 7, lines 5-15, signal strength measurement relates to signal

quality measurement and base station controller and base station coordinate to provide service to mobile station). Labonte teaches determining a target base station based on the one or more signal quality measurements (see col. 7, lines 19-23). Labonte teaches the target base station including one or more first antennas transmitting a first broadcast signal using a wide antenna beam (see col. 4, lines 5-10 and col. 9, lines 17-20, signal strength is broadcast from second base station which relates to broadcast signal). Labonte teaches a broadcast signal having a phase reference (see col. 7, lines 45-48, orientation angle relates to phase reference). Labonte teaches one or more downlink signal quality measurements are for a broadcast signal (see col. 9, lines 11-16). Labonte teaches one or more second antennas transmitting multiple second signals using a narrow antenna beam narrower than the wide antenna beam (see col. 4, lines 10-15, wide band and narrow band antenna are distinguished in a way that inherently suggest that the narrow beam is narrower than the wide beam). Labonte teaches establishing a radio link between a target base station and the mobile station using a broadcast signal and a phase reference (see col. 9, lines 11-20, measuring by the mobile station of downlink received signal strength on channel broadcast from second base station relates to establishing radio link using a broadcast signal). Labonte teaches determining a desired narrow antenna beam from the multiple narrow antenna beams at the target base station for communicating with a mobile station (see col. 8, lines 22-29, verifying signal strength measurement and orientation angle determination are used to determine desired narrow antenna beam). Labonte does not specifically teach a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a radio link to use a desired narrow antenna beam and corresponding second phase reference. Ylitalo teaches a CDMA-based radio

communication system (see paragraph [0023]). Ylitalo teaches transmitting multiple pilot signals each having a second phase reference different from a first phase reference (see paragraph [0076], 1st column, calculated phase difference between the wide antenna beam and narrow antenna beam pilot signals relates to multiple pilot signals each having a second phase reference different from a first phase reference). Ylitalo teaches reconfiguring a radio link to use the desired narrow antenna beam (see paragraph [0064], handover to desired narrow antenna beam relates to reconfiguring a radio link). Ylitalo teaches a narrow antenna beam and a corresponding phase reference (see paragraph [0076], 1st column). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a CDMA-based radio communication system, transmitting multiple pilot signals each having a second phase reference different from the first phase reference, and reconfiguring a radio link to use a desired narrow antenna beam and corresponding second phase reference because both Labonte and Ylitalo are concerned with downlink channel measurements using wide and narrow antenna beams (Labonte-see col. 2, lines 56-60) and Ylitalo-see paragraph [0009]) and modifying Labonte with Ylitalo would allow for improved an method of effecting handover radio communication system using downlink measurements.

Claims 39, 46, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labonte et al. (US 6,259,918 B1) in view of Ylitalo (US 2003/0157898 A1) and Keskitalo et al. (US 6,415,163 B1).

Regarding claim 39 Labonte and Ylitalo teach a device as recited in claim 35 except for wherein a handover is a softer handover. Keskitalo teaches a handover that is a softer handover (see col. 2, lines 66-67). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to make the device adapt to include wherein a handover is a softer handover because an method of effecting handover radio communication system using downlink measurements.

Regarding claim 46 Labonte, Ylitalo, and Keskitalo teach a device as recited in claim 39 and is rejected given the same reasoning as above.

Regarding claim 54 Labonte, Ylitalo, and Keskitalo teach a device as recited in claim 39 and is rejected given the same reasoning as above.

Claim Objections

Claims 35, 41-42, 49-50, and 56 are objected to because of the following informalities:

Claims 35, 41-42, 49-50, and 56 recite the limitation "second pilot signals" throughout the claims. It is unclear as to why the limitation refers to second pilot signals when a first group of pilot signals have not been mentioned in any claim.

Appropriate correction is required.

Claims 35, 42, and 50 are objected to because of the following informalities:

Claim 35 recites the limitation "for each of some of the second pilot signals" in line 13. It is unclear as to if the limitation refers to each pilot signal or some of the pilot signals. Claims 42 and 50 contain similarly ambiguous language in lines 16, 13 respectively.

Appropriate correction is required.

Claim 48 objected to because of the following informalities:

Claim 48 recites the limitation "a communication system incorporating the radio network controller in claim 42". It is unclear as to how the communication system will incorporate the network controller.

Appropriate correction is required.

Response to Arguments

Applicant's arguments with respect to claims 35-56 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gray U.S Patent No. 6,108,323 discloses a method and system for operating a CDMA cellular system having beam forming antennas.

Scherzer et al. U.S. Patent No. 6,901,062 B2 discloses an adaptive antenna array wireless data access point.

Wilson et al. Pub. No.: US 2004/0179544 A1 discloses a multi-beam cellular communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Miller whose telephone number is 571-272-7869. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 15, 2006

GEORGE ENG
SUPERVISORY PATENT EXAMINER